

ABSTRACT OF THE DISCLOSURE

A scheme for electromagnetic formation of fuel cell plates is provided. In accordance with one embodiment of the present invention, a method of forming a flow field plate is provided where an electromagnetic actuator is arranged opposite a profiled surface of a die portion. The profiled surface of the die portion is configured to at least partially define a network of flow field plate flow passages. The electromagnetic actuator is configured to generate a magnetic field upon activation and a sheet of material is positioned between the electromagnetic actuator and the profiled die surface. The sheet of material is characterized by an electrical conductivity sufficient to yield a repulsive electromagnetic force between the actuator and the sheet upon activation of the actuator. The passages are formed by driving the electromagnetic actuator such that the repulsive force is of sufficient intensity to deform the sheet against the profiled die surface.